



*Installation
And
Operation*

*MS3006
Hex-Amplifier*

©DPI LABS, INC.
1350 ARROW HIGHWAY
LA VERNE, CA 91750
TEL (909) 392-5777 FAX (909) 392-0277

REVISIONS RECORD

REV	DATE ISSUED	ISSUED BY	REVISION SUMMARY
-	8/29/02	DPI Labs, Inc.	Initial Release

GETTING STARTED

This manual is designed to provide information for the owner, salesperson and installer. We, at DPI Labs, Inc. have worked very hard to make sure all the information in this manual is current. But, as we are constantly finding ways to improve our product, this information is subject to change without notice.

Visit our website for the latest information on all DPI Labs products.

www.dpilabs.com

If, after reading your manual and you still have questions regarding this product, we recommend that you contact a DPI Labs Service Support Technician at (909) 392-5777. Be sure to have supporting documents on how the product was wire on the aircraft.

CAUTION

CONTINUOUS EXPOSURE TO SOUND PRESSURE OVER 100db
MAY CAUSE PERMENANT HEARING LOSS. HIGH POWERED
SOUND SYSTEMS MAY PRODUCE SOUND PRESSURE LEVELS
WELL OVER 130db.

COPYRIGHT NOTICE

©2002 DPI Labs, Inc.

Reproduction of this publication or any portion thereof, by any means, without the express written Permission of DPI Labs, Inc. is prohibited. For further information contact: Document Control, DPI Labs, Inc., 1350 Arrow Highway, La Verne, CA 91750 TEL (909) 392-5777 FAX (909) 392-0277

TABLE OF CONTENTS

Section 1 General	1
1.1 <i>Introduction</i>	1
1.2 <i>Features</i>	1
1.3 <i>Specifications</i>	2
1.4 <i>Pin Outs</i>	3
Section 2 Installation	4
2.1 <i>General</i>	4
2.2 <i>Installation Mechanical</i>	4
2.3 <i>Installation Wiring</i>	4
2.4 <i>Adjustments</i>	5
2.5 <i>Testing Amplifier</i>	5

Section 1 General

1.1 Introduction

The MS3006 600-Watt Hex-Amplifier was specifically designed for corporate aircraft audio installations and is powered directly by aircraft 400Hz power. This allows a simple, space-efficient installation without the need for special power supplies or inverters. The MS3006 has six equal output channels which can be configured in three basic cabin arrangements. The first being a 5+1 configuration, you need a 5+1 decoder to feed all six channels of this amp in this configuration. The second is two cabins in a three channels apiece configuration, this would have a right, left and sub output form an input of right and left of each cabin. The third would be a three cabin configuration in which there would be three sets of right/left outputs for three sets of right/left inputs. Each of the six channels can be muted independently of the others by grounding a discrete input. An over-temperature circuit protects the amplifier if it exceeds an internal temperature of 85°C. If this protection circuit is activated, an indicator LED is illuminated.

1.2 Features

1. Single, self-contained, lightweight unit
2. Operates from aircraft 400Hz power
3. Internal active crossover system
4. Extremely low distortion
5. Excellent frequency response
6. Faithful sound reproduction
7. Speaker & amplifier protection circuit
8. Simple installation
9. Completely configurable
10. Self-cooling

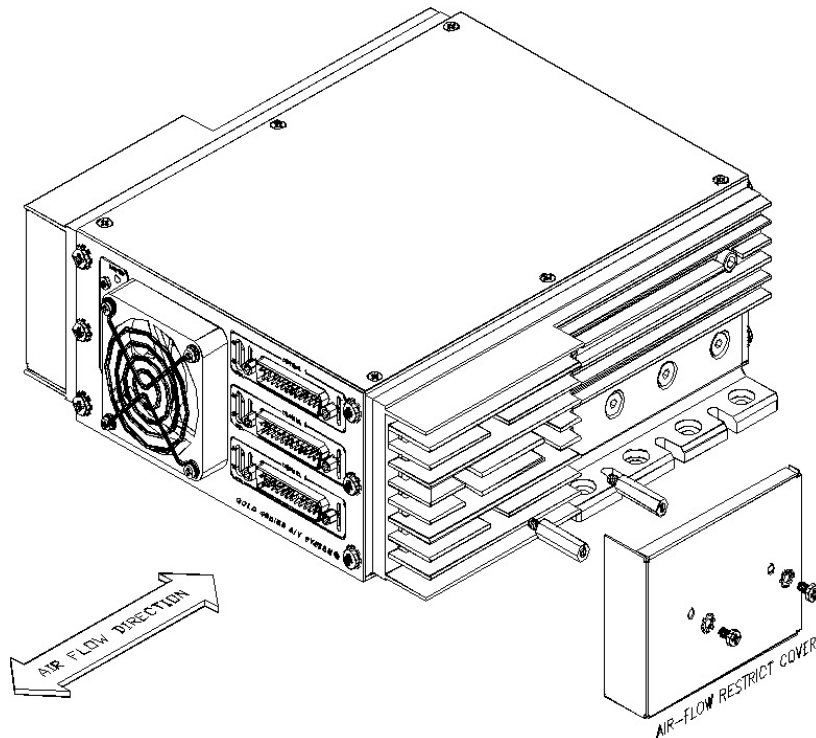


Figure 1.1

1.3 Specifications

Operating

Voltage 115VAC @ 400Hz
425VA RMS

Current 3.7A RMS
5.6A Peak

Temperature -10 to +55 °C

Mechanical

Case
Material Aluminum
Finish Black Anodized
Dimensions 6.96"W x 10.54"D x 3.24"H
Weight

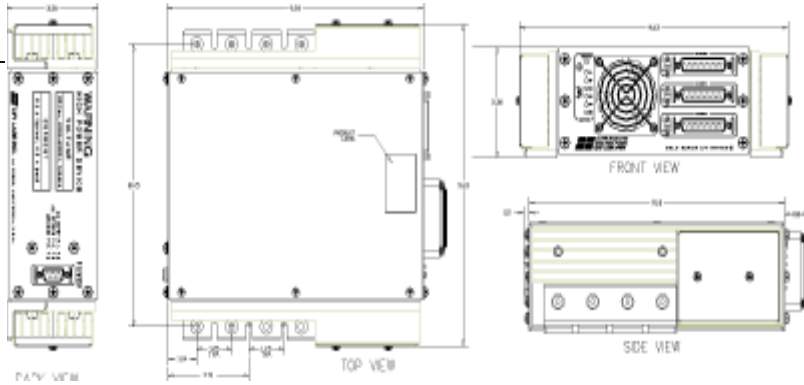
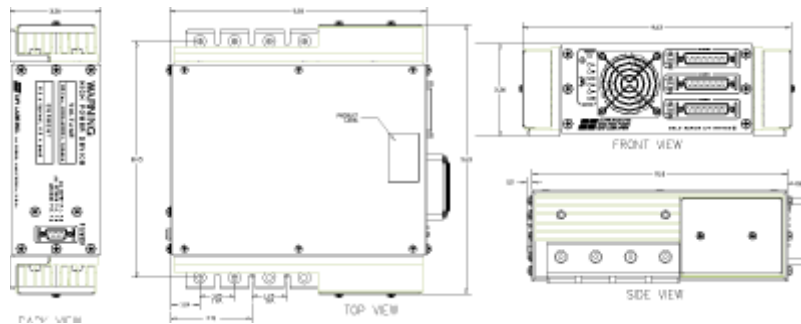


Figure 1.2

Parameter	Specification		
	RMS (sine)	RMS (Square)	Peak
Channel 1a-	100.0	120.0	135.0
Channel 1b-	100.0	120.0	135.0
Channel 2a-	100.0	120.0	135.0
Channel 2b-	100.0	120.0	135.0
Channel 3a-	100.0	120.0	135.0
Channel 3b-	100.0	120.0	135.0
Total Power	600.0	720.0	810.0
Minimum Speaker Impedance	4 Ohms (All Channels)		

Notes: Speaker Audio out - Double Twisted Shielded

1.4 Pin Outs



Channel 1/Group 1 Interface Connector (Front)

PIN	Function	PIN	Function
1	Audio Input Hi CH 1A	14	Audio Input Shield (PWR GND)
2	Audio Input Low CH 1A	15	Audio Input Shield (PWR GND)
3	Audio Input Hi CH 1B	16	Discrete Return (PWR GND)
4	Audio Input Low CH 1B	17	Discrete Return (PWR GND)
5	+28VDC Return (PWR GND)	18	+28VDC Output (300mA Max)
6	+28VDC Output (300mA Max)	19	Mute Discrete Input - CH 1A
7	Mute Discrete Input - CH 1B	20	Mute Discrete Input - CH 1A + CH 1B
8	Mute Discrete Input - All 6 CH	21	N.C.
9	N.C.	22	Speaker Output + CH 1B
10	Speaker Output + CH 1B	23	Speaker Output - CH 1B
11	Speaker Output - CH 1B	24	Speaker Output + CH 1A
12	Speaker Output + CH 1A	25	Speaker Output - CH 1A
13	Speaker Output - CH 1A		

Channel 2/Group 2 Interface Connector (Front)

PIN	Function	PIN	Function
1	Audio Input Hi CH 2A	14	Audio Input Shield (PWR GND)
2	Audio Input Low CH 2A	15	Audio Input Shield (PWR GND)
3	Audio Input Hi CH 2B	16	Discrete Return (PWR GND)
4	Audio Input Low CH 2B	17	Discrete Return (PWR GND)
5	+28VDC Return (PWR GND)	18	+28VDC Output (300mA Max)
6	+28VDC Output (300mA Max)	19	Mute Discrete Input - CH 2A
7	Mute Discrete Input - CH 2B	20	Mute Discrete Input - CH 2A + CH 2B
8	Mute Discrete Input - All 6 CH	21	Mono CH 2B - Input = 3A + 3B
9	Mono CH 2A - Input = 1A + 1B	22	Speaker Output + CH 2B
10	Speaker Output + CH 2B	23	Speaker Output - CH 2B
11	Speaker Output - CH 2B	24	Speaker Output + CH 2A
12	Speaker Output + CH 2A	25	Speaker Output - CH 2A
13	Speaker Output - CH 2A		

Channel 3/Group 3 Interface Connector (Front)

PIN	Function	PIN	Function
1	Audio Input Hi CH 3A	14	Audio Input Shield (PWR GND)
2	Audio Input Low CH 3A	15	Audio Input Shield (PWR GND)
3	Audio Input Hi CH 3B	16	Discrete Return (PWR GND)
4	Audio Input Low CH 3B	17	Discrete Return (PWR GND)
5	+28VDC Return (PWR GND)	18	+28VDC Output (300mA Max)
6	+28VDC Output (300mA Max)	19	Mute Discrete Input - CH 3A
7	Mute Discrete Input - CH 3B	20	Mute Discrete Input - CH 3A + CH 3B
8	Mute Discrete Input - All 6 CH	21	N.C.
9	N.C.	22	Speaker Output + CH 3B
10	Speaker Output + CH 3B	23	Speaker Output - CH 3B
11	Speaker Output - CH 3B	24	Speaker Output + CH 3A
12	Speaker Output + CH 3A	25	Speaker Output - CH 3A
13	Speaker Output - CH 3A		

Power Interface Connector (Rear)			
PIN	Function	PIN	Function
1	110 VAC Input	6	110 VAC Input
2	N.C.	7	N.C.
3	N.C.	8	110 VAC Return
4	110 VAC Return	9	Ground
5	Ground		

Installation Notes:

- ? **Mono Select Channel 2/Group 2 Only-** Connect to discrete return for a sub output of that channel. Connect NO input to that channel will create an unbalanced mono output with input on that channel.

Section 2 Installation

2.1 General

The information in this section assists the installer of the amplifier. Details both the mechanical mounting requirements and the electrical wiring requirements. Following these guidelines will help ensure the proper operation and satisfactory performance of the equipment.

Should questions arise or assistance is needed during the installation of this amplifier, please contact a DPI Labs, Inc. Technical Support Representative:

DPI Labs, Inc.
1350 Arrow Highway
LaVerne, CA 91750
Tel (909) 392-5777 Fax (909) 302-0277

2.2 Installation Mechanical

The MS3006 comes with two brackets one on each side of unit for easy installation. Additional brackets can be obtained and mounted facing up in order to mount multiple amplifiers. The Amplifier requires a flat area 9.63" W x 10.18" D x 3.30" H. The MS3006 must be located in a position where the cooling air intake and exhaust are unobstructed. Allow enough room to connect and disconnect the wiring harness connectors and to access the adjustments.

2.3 Installation Wiring

Following the guidelines when wiring the harnesses will ensure high quality and low noise installation. Refer to Section 1, 1.4 for the amplifier Pin Out.

1. The wire gauge selected for the 115VAC 400Hz should be at least 16 AWG. The wire gauge for the 28VDC output equal 20AWG or larger.
2. All shields and grounds must be used to reduce external noise coupling into the amplifier. Length of shield grounding wires shall not exceed 3 inches.
3. Analog shield grounds (audio) should be grounded at the transmitting end only. Shield continuity should be maintained through any bulkhead disconnects.
4. Chassis ground should be bonded directly to airframe ground. Do not splice chassis ground to power ground or any other ground.

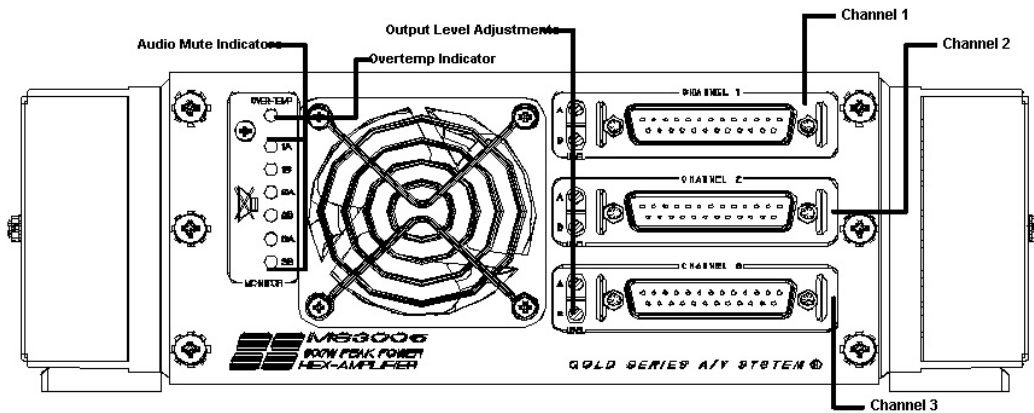


Figure 2-1

2.4 Adjustments

The MS3006 is preadjusted before shipment. Service adjustments (for adjusting individual channel levels) are available under the speaker outputs on the unit. There are two potentiometers on next to each Channel connector. Turning the Potentiometers clockwise increases the gain and turning them counter clockwise decreases the gain.

2.5 Testing Amplifier

The MS3006 is a responsive device and depends on external input to function. Ensure the audio source equipment is operating properly prior to testing the MS3006.

With audio source operating properly, verify:

1. Audio is present at each speaker attached to the MS3006.
2. Adjust volume to 100%, you should have no distortion. If there is distortion the gain is adjusted to high. Turn the gains counter clockwise until the distortion is gone. Ensure the A and B Channels are level. This can be done with a DB Meter and a test CD that will input to channels one at a time. Measure both channels and ensure the levels match. Repeat this for each Channel of the amplifier.